REMARKS

I. INTRODUCTION

Claims 13, 15-16, and 26 have been cancelled. Claims 1 and 14 have been amended. Thus, claims 1, 5, 7-12, 14, 17-18, and 22-25 remaining pending in the present application. No new matter has been added. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

II. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

The Examiner has rejected claims 1, 5, 7-12, 14, 17-18, and 22-25 under 35 U.S.C. § 103(a) as unpatentable over JP 55-115440 (Ootani) in view of U.S. Pat. No. 5,429,628 (Trinh). (See 11/30/06 Office Action, p. 2).

Trinh describes compositions and articles which minimize odor caused from body fluids through the incorporation of an effective amount of cyclodextrin, having a particle size of less than 12 microns. (See Trinh, abstract). Dry cyclodextrin/perfume complex powder is sprinkled, mixed or distributed onto a fluid absorbent material. (See Id., col. 21, ll. 11-13). In one preferred embodiment, the cyclodextrin/perfume complex is attached to the substrates by using a binder. (See Id., col. 21, ll. 26-29). In another preferred embodiment, the cyclodextrin/perfume complex is applied as a slurry to the fluid absorbent material by, for example, spraying the cyclodextrin complex onto the already formed web. (See Id., col. 21, ll. 33-38).

Otani describes an acrylonitrile polymer molded article containing a zinc powder as a filler. (See Otani, p. 1). The acrylonitrile polymer of Otani comprises 0.1 to 30% by weight of zinc powder. (See Id., p. 2). Otani discloses that when the content of a zinc powder is less than 0.1% by weight, it is not possible to expect sufficient antifungal and antibacterial effects from the resultant molded article. (See Id., p. 3). The zinc particles are dispersed into the molded article,

dispersing them so as to have an island-in-sea structure, or dispersing them so as to have a sheath-core structure. (See Id., p. 4). In this way, when orienting a zinc powder along the direction of fiber axis in a state separated from the fiber cross section, a polymer having a favorable affinity to the zinc powder may be used as a carrier. (See Id., p. 4).

Claim 1 has been amended to recite a fiber material having improved malodor scavenging properties, the fiber material comprising fibers and "dispersed within the fibers, an effective malodor scavenging amount of at least one of (i) particles of zinc, wherein the amount of particles of zinc in the fiber material is in a range from about 0.015 to 1 wt.-%, based on the fiber material, and wherein the particles of zinc are essentially free of corresponding oxides and the particles of zinc are nanosized particles having an average diameter in a range of 40 to 250 nm and (ii) a cyclodextrin material, wherein the cyclodextrin is free of an inclusion complex compound and the cyclodextrin comprises an α-cyclodextrin, a β-cyclodextrin, a γ-cyclodextrin or mixtures thereof, having pendant moieties or substituents that render the cyclodextrin compatible with the fiber material, wherein the malodor scavenging amount is physically mixed into the fibers of the fiber material *by extrusion, the cyclodextrin comprising at least one substituent having an alkyl ester group.*"

Claim 1 differs from the compositions and articles disclosed in Trinh. Specifically, Trinh discloses adhering/attaching cyclodextrin to a fiber's surface as a coating after the fiber has been manufactured. (See Trinh, col. 21, ll. 11-13). More precisely, according to Trinh, the cyclodextrin is coated onto a hydrophobic fiber after the fiber is produced. As a consequence, Trinh does not disclose cyclodextrin physically mixed into the fibers. Those skilled in the art will understand that this process of manufacturing differs from that used in the present application. Accordingly, one main difference between the present invention and Trinh is the manner in which the cyclodextrin is introduced into or onto the fibers. In claim 1, compatible cyclodextrin is dispersed into the fiber material by extrusion. In its entirety, Trinh does not include any disclosure regarding "the malodor scavenging amount [to be] physically mixed into the fibers of the fiber material by extrusion," as recited in claim 1. The lack of utilizing extrusion

as the mixing method in Trinh is obvious in light of the methods that Trinh does use to apply the cyclodextrin onto the substrates.

The Examiner admits that the particles of Trinh are not dispersed within each individual fiber. (See 11/30/06 Office Action, p. 2, l. 22 - p. 3, l. 1). Although the dispersion within each individual fiber is an element of claim 1 of the present invention, the Examiner further asserts that since the particles of Trinh are "dispersed within the fibers as a group", the disclosure of Trinh reads on claim 1. Even assuming that the particles of Trinh are "dispersed within the fibers as a group" (which the Applicants do not concede), it is respectfully submitted that the corresponding fiber material does not read on claim 1 of the present application. It is simply impossible to prepare a fiber material with cyclodextrin-coated fibers being bundled into groups by physically mixing cyclodextrin into the fibers of the fiber material by extrusion. That is, the process of extrusion, as applied to claim 1, allows the malodor scavenging amount to be dispersed within each individual fiber. However, this is what claim 1 of the present application says. There is no doubt that cyclodextrin must be dispersed within each individual fiber in order to read on the language recited in claim 1.

Furthermore, claim 1 differs from the compositions and articles disclosed in Ootani. Specifically, Ootani discloses an acrylonitrile polymer that has a preferable range of zinc powder from 1 to 20% by weight. Ootani specifically discloses that a zinc powder of less than 0.1% by weight is insufficient for antifungal and antibacterial effects. That is, Ootani teaches away from the fiber material disclosed in the present application. Specifically, the fiber material of the present application may contain zinc particles as low as 0.015 wt% and still be effective, as recited in claim 1. (See Specification, p. 12, ¶ [0046]). Furthermore, it is to be noted that the reactive zinc particles used according to the present invention provide malodor scavenging properties and do not function as antifungals or antibacterials. The Examiner merely refers to Ootani disclosing zinc particles of a size less than one micron and never addressed the weight percentages of zinc. With reference to the size of the zinc particles, claim 1 recites "the particles of zinc [being] nanosized particles having an average diameter in a range of 40 to 250nm."

Ootani discloses that the zinc particles are contained in the acrylonitrile polymer at a particle size of "1μm or less" (*i.e.*, 1,000nm or less). (See Ootani, p. 3). Furthermore, Ootani further specifies that a zinc particle size ranges from "about 0.5 to 2μm" (*i.e.*, 500 to 2,000nm). (See Ootani, p. 5). Therefore, even if Ootani discloses that some of the zinc particles may be less than one micron (which the Applicants do not concede), they do not fall into the "nanosized particles having an average diameter in a range of 40 to 250nm," as recited in claim 1. Finally, as set out in the previous submission, Ootani does not teach the use of zinc being essentially free of corresponding oxides.

In addition, claim 1 has been amended to recite "the cyclodextrin compris[ing] at least one alkyl ester group." This recitation was formerly a portion of the cancelled claim 13. With reference to claim 13, the Examiner asserted that Trinh discloses the cyclodextrin may comprise an alkyl ether group. (See 11/30/06 Office Action, p. 3, citing Trinh col. 15, ll. 19-27). Trinh discloses that the water-soluble binders may be melting polymers such as polyethylene glycols (PEG), poly (ethylene glycol) methyl ethers, or mixtures thereof. Initially, it is respectfully submitted that Trinh does not disclose a cyclodextrin *comprising* a substituent having an alkyl ether group. The PEG and poly methyl ethers are used as water-soluble binders for the cyclodextrin. That is, the PEG and/or the poly methyl ethers are separate components from the cyclodextrin. Furthermore, with reference to cyclodextrins, Trinh only discloses the use of alkyl ether groups (*e.g.*, PEG, poly methyl ethers, or a combination thereof). That is, Trinh does not disclose the use of alkyl *ester* groups with cyclodextrins, let alone the cyclodextrin comprising the alkyl ester group. Those skilled in the art understand that an ester differs from an ether in a variety of ways (*e.g.*, chemical properties, chemical makeup, formation, etc.).

Thus, it is respectfully submitted that neither Ootani nor Trinh, either alone or in combination, discloses or suggests a fiber material having improved malodor scavenging properties, the fiber material comprising fibers and "dispersed within the fibers, an effective malodor scavenging amount of at least one of (i) particles of zinc, wherein the amount of particles of zinc in the fiber material is in a range from about 0.015 to 1 wt.-%, based on the fiber

material, and wherein the particles of zinc are essentially free of corresponding oxides and the particles of zinc are nanosized particles having an average diameter in a range of 40 to 250 nm and (ii) a cyclodextrin material, wherein the cyclodextrin is free of an inclusion complex compound and the cyclodextrin comprises an α-cyclodextrin, a β-cyclodextrin, a γ-cyclodextrin or mixtures thereof, having pendant moieties or substituents that render the cyclodextrin compatible with the fiber material, wherein the malodor scavenging amount is physically mixed into the fibers of the fiber material by extrusion, the cyclodextrin comprising at least one substituent having an alkyl ester group," as recited in claim 1. Because claims 5, 7-12, 14, 17-18, and 25 depend from and, therefore, include all the limitations of claim 1, it is respectfully submitted that these claims are also allowable.

Claim 22 recites a "[h]ygienic article comprising a fiber material according to claim 1." Thus, Applicants respectfully submit that this claim is also allowable for at least the reasons stated above with reference to claim 1. Because claims 23-24 depend from and, therefore, include the limitations of claim 22, it is respectfully submitted that these claims are allowable as well.

The Examiner has rejected claims 12 and 14 under 35 U.S.C. § 103(a) as unpatentable over JP 55-115440 (Ootani) in view of U.S. Pat. No. 5,429,628 (Trinh) in further view of U.S. Pat. No. 5,776,842 (Wood). (See 11/30/06 Office Action, p. 4).

Claim 1 was recited and discussed above. Trinh and Ootani were discussed above. The Examiner states that Wood describes the modified cyclodextrins referred to in the present application and that it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the moieties taught by Wood in the cyclodextrin of Trinh "in order to provide cyclodextrin material that can better interact with polymer and provide uniform dispersion on a substrate as taught by Wood." (See 11/30/06 Office Action, p. 4, l. 3-11). Wood discloses that a cyclodextrin barrier layer can be corrugated or sheet laminated with or on a cellulosic web. The cyclodextrin material can be included in a coating composition that is coated

on the surface or both surfaces of the cellulosic web after web formation. (See Wood, abstract). It is to be noted that according to the present invention it is not contemplated to provide "uniform dispersion on a substrate". Furthermore, Wood does not suggest to use cyclodextrins with alkyl ester groups physically mixed into a fiber material, let alone that cyclodextrin with alkyl ester groups provide excellent malodor scavenging properties in such fibers. Thus, it is respectfully submitted that neither Trinh, Ootani, nor Wood discloses or suggests the above recitation of claim 1. Accordingly, because claims 12 and 14 depend from and, therefore, include all the limitations of claim 1, it is respectfully submitted that these claims are allowable for at least the reasons stated above.

CONCLUSION

In view of the above amendments and remarks, it is respectfully submitted that all the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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